

Appln. No.: 09/963,324
Amendment Dated August 17, 2005
Reply to Office Action of June 3, 2005

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Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. (Currently Amended) A remote control system for translating an utterance of an operator to a control parameter of an electronic device, comprising:

a remote control unit, including,

i. an audio input for receiving the utterance;

ii. a codec for compressing the utterance; and

iii. a transmitter operably linked to the audio input for providing a transmission signal corresponding to the compressed utterance;

a relay station, separate from the remote control unit and electronic device, responsive to the transmission signal, the relay station including,

i. a receiver for recovering ~~audio signals representing the~~ compressed utterance from the transmission signal;

ii. A further codec for decompressing the compressed utterance to provide audio signals representing the utterance;

iii. a speech recognition module for translating the audio signals into a sequence of words;

iv. a memory for translating the sequence of words into the control parameter;

wherein the control parameter is provided by the relay station to the electronic device enabling hands-free remote control of the electronic device.

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2. (Original) The remote control system of claim 1, wherein the remote control unit is an operator headset having a microphone coupled to the audio input of the remote control unit.

3. (Original) The remote control system of claim 1, wherein the electronic device is operably linked to the relay station to receive the control parameter.

4. (Currently Amended) The remote control system of claim 1, further comprising:

a display device, coupled to the electronic device for displaying a control menu;

wherein the sequence of words representing the utterance is-are translated by the relay unit into a menu navigation control parameter that causes the electronic device to navigate the displayed control menu.

5. (Original) The remote control system of claim 4, wherein the navigation of the menu is displayed on the display device in response to the electronic device receiving the menu navigation control parameter.

6. (Original) The remote control system of claim 4, wherein the received navigation control parameter is displayed on the display device.

7. (Original) The remote control system of claim 1, wherein the relay station further comprises:

a transmitter for providing the control parameter to a remote control input port of the electronic device.

8. (Original) The remote control system of claim 7, wherein the remote control unit further comprises:

a receiver for receiving transmissions from the relay station.

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9. (Original) The remote control system of claim 8, wherein the receiver of the remote control unit is configured to receive menu data from the transmitter of the relay unit and the transmitter of the remote control unit is configured to provide transmission signals representing utterances for selecting a menu option.

10. (Currently Amended) ~~The A remote control system of claim 8, wherein the relay unit further comprises:~~ for translating an utterance of an operator to a control parameter of an electronic device, comprising:

a remote control unit, including,

i. an audio input for receiving the utterance; and

ii. a transmitter operably linked to the audio input for providing a transmission signal corresponding to the utterance;

iii. a receiver for receiving transmissions from the relay station, the receiver of the remote control unit being configured to receive menu data from the transmitter of the relay unit and the transmitter of the remote control unit is configured to provide transmission signals representing utterances for selecting a menu option;

a relay station, separate from the remote control unit and electronic device, responsive to the transmission signal, the relay station including,

i. a receiver for recovering audio signals representing the utterance from the transmission signal;

v. a speech recognition module for translating the audio signals into a sequence of words;

vi. a memory for translating the sequence of words into the control parameter;

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vii a transmitter for providing the control parameter to a remote control input port of the electronic device enabling hands-free remote control of the electronic device; and

viii a communications transceiver configured to allow a user to contact a remotely located party, wherein the receiver and transmitter of the remote control unit are configured to receive signals from the communications transceiver and to provide signals to the communications transceiver to utilize the communication transceiver of the relay unit to communicate with the remotely located party.

11. (Original) The remote control system of claim 10, wherein the remote control unit and the relay unit are configured to provide voice communication between the remotely located party and the operator.

12. (Original) The remote control system of claim 11, wherein the relay unit is operably linked to a telecommunication line and signals corresponding to the voice communication are transferred between the relay unit and the remotely located party over the telecommunication line.

13. (Currently Amended) A remote control system for translating utterances of an operator to control parameters for a plurality of electronic devices, comprising:

a remote control unit, including,

i. an audio input which receives utterances;

ii. a codec for compressing the utterances; and

iii. a transmitter operably linked to the audio input to provide transmission signals corresponding to the compressed utterances;

a relay station, separate from the remote control unit and the electronic device, responsive to the transmission signals, the relay station including,

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- i. a receiver which recovers ~~audio signals representing the compressed~~ utterances from the transmission signals;
- ii. a further codec for decompressing the compressed utterances to provide audio signals representing the utterances;
- iii. a speech recognition module which translates the audio signals into words
- iii-iv. a memory including a plurality of look-up tables each of which translates the translated words into the control parameters for a respective one of the plurality of devices; and
- iv-v. a processor which selects one of the look-up tables to be used to generate the control parameters responsive to the translated words;
- v-vi. a transmitter which provides the control parameters from the selected look-up table to the respective electronic device;

whereby hands-free remote control of the plurality of electronic devices is enabled.

14. (Currently Amended) A remote control system according to claim 13, wherein:

~~the memory further comprises a further plurality of look-up tables, each corresponding to a respectively different device type~~ speech recognition module includes a protocol, responsive to a portion of the decompressed utterance for providing a command to the processor to select the one of the look-up tables; and

~~the processor is configured to receive a the command to associate-select the one of the further plurality of look-up tables with the plurality of look-up tables to allow use of the one of the further plurality of look-up tables in controlling the corresponding device.~~

15. (Canceled).

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16. (Currently Amended) A remote control system for translating an utterance of an operator to a control parameter of an electronic device, comprising:

a remote control unit, including,

- i. a microphone for receiving the utterance;
- ii. an audio transducer for providing audio information to the operator;
- iii. a codec for compressing the utterance;
- ~~iii~~.iv. a transmitter operably linked to the microphone for providing a transmission signal corresponding to the compressed utterance;
- iv. a receiver responsive to feedback signals and operably linked to the audio transducer for providing audio prompts to the operator

a relay station, separate from the remote control unit and the electronic device, responsive to the transmission signal, the relay station including,

- i. a receiver for recovering the compressed utterance from the transmission signal and for receiving feedback signals from the electronic device,
- ii. a further codec for decompressing the compressed utterance;
- ~~iii~~.iii. a speech recognition module for translating the decompressed utterance of the operator into the control parameter;
- ~~iii~~.iv. means for transmitting the control parameter to the electronic device, and for transmitting the feedback signal to the receiver of the remote control unit; and

wherein the control parameter is provided by the relay station to an electronic device and the electronic device provides the feedback signals for prompting an operator of the

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remote control unit to select one of a plurality of menu options, enabling hands-free remote control of the electronic device.

17. (Currently Amended) A method of translating an utterance of an operator to a control parameter of an electronic device, comprising:

compressing the utterance;

converting ~~an~~ the compressed utterance into a modulated transmission signal;

receiving the transmission signal at a relay unit, the relay unit being separate from the remote control unit and the electronic device;

recovering ~~audio signals representing the~~ compressed utterance from the modulated transmission signal;

decompressing the compressed utterance to provide audio signals representing the utterance;

processing the audio signals to recognize the words included in the utterance;
and

translating the recognized words into the control parameter,

providing the control parameter from the relay station to the electronic device enabling hands-free remote control of the electronic device.

18. (Currently Amended) A method of translating an utterance of an operator to a control parameter and receiving a feedback signal from a electronic device in response to the control parameter for prompting the operator of a remote control system to select from a plurality of available control parameters, comprising:

compressing the utterance;

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converting ~~an~~ the compressed utterance into a modulated transmission signal;

receiving the transmission signal at a relay unit the relay unit being separate from the remote control unit and the electronic device;

recovering ~~audio signals representing the~~ compressed utterance from the modulated transmission signal;

decompressing the compressed utterance to provide audio signals representing the utterance;

processing the audio signals to recognize words included in the utterance;

translating the recognized words into a control parameter for the electronic device;

transmitting the control parameter from the relay unit to the electronic device;

receiving a feedback signal from the electronic device at the relay unit;

designating an utterance menu command corresponding to the feedback signal;

transmitting a signal representing the utterance menu from the relay unit to the remote control unit; and

providing the signal representing the utterance menu as an audio output signal of the remote control unit,

whereby the utterance menu prompts the operator of the remote control unit to select one of a plurality of menu options for the electronic device.